## **Abstract**

The present invention relates to a method for determining the thickness of material by penetrating the material, in particular a method for measuring the thickness of walls, ceilings and floors, with which a measurement signal (28) in the gigahertz frequency range emitted using a high-frequency transmitter (24) penetrates the material (10) to be investigated at least once and is detected by a high-frequency receiver (38).

According to the present invention, it is provided that the thickness (d) of the material (10) is measured via at least two transit-time measurements of the measurement signal (28) performed at various positions (20, 22) of the high-frequency transmitter (24) and/or the high-frequency receiver (34).

The present invention also relates to a device system (12; 40, 140, 240, 340) for carrying out the method described above.

(Figure 1)

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